

REMARKS

In response to the Examiner's request, Applicant has amended the specification to reflect the issued status of the related application, and has added the definition of "g" as the acceleration of gravity. Applicant submits that no new matter is being added. Accordingly, Applicant submits that such amendment overcomes the Examiner's objection, and the Examiner is respectfully requested to remove this objection to the drawings.

The following amendments to the claims have been made:

Claim 35 has been amended to recite that the controlling step further comprises producing a "blend drop at a low speed as low as about 200 ft/min and a substantially similar blend drop at a high speed as high as about 1,000 ft/min". Support for such amendment is found in the specification at page 10, lines 25 – 32. Such amendment overcomes the rejection under 35 USC § 112, 2nd paragraph, and the Examiner is respectfully requested to withdraw this rejection.

Claim 1 has been amended and claim 2 has been cancelled. Claim 1 now recites the language of claim 2 where "the step of controlling the extent of opening of the slot includes independently controlling: i) the speed of the movement of the gate, and ii) the extent of opening of the slot by the gate to meter the granules falling from the hopper".

Likewise, claims 7 and 11 have been amended and claim 10 has been cancelled. Claim 7 now recites the language of claim 10 where the method of depositing granules onto a moving substrate includes controlling the acceleration rate of the gate during the opening of the slot so that the acceleration rate does not exceed about 4 g (where g is the acceleration of gravity) and "controlling the speed of the movement of the gate; and independently controlling the extent of opening of the slot by the gate to meter the granules falling from the hopper".

Claim 19 has been cancelled.

Likewise, claims 20 and 22 have been amended and claim 21 has been cancelled. Claim 20 now recites the language of claim 22 where the method of depositing granules onto a moving substrate includes opening of the slot by the gate to meter the granules falling from the hopper; where the step of controlling comprises "controlling the extent of opening of the slot includes independently controlling: i) the speed of the movement of the gate, and ii) the extent of opening of the slot by the gate to meter the granules falling from the hopper.

These amendments to the claims overcome the rejection of the claims 1 – 40 under 35 USC §103(a) over the Bowen U.S. Pat. No. 3,101,281 (Bowen) reference in view of the White et al. (White et al.) U.S Pat. No. 6,360,638 reference. Further, the remaining claims are also patentably distinct over the Bowen reference and White et al. references for at least the following reasons:

The present invention recites a method of depositing granules onto a moving substrate where two independent variables are simultaneously, yet independently, controlled. The controlling step includes the independent control of the speed of the movement of the gate and the independent control of the extent of opening of the slot by the gate to meter the granules falling from the hopper.

In contrast, the Bowen reference only mentions the speed of the gate as it relates to the speed of the substrate. There is no teaching or suggestion in the Bowen reference of independent control of both the speed of the gate and the extent of opening of the gate. It was not until the present invention herein that such variables are independently controlled in order to provide the rapid and accurate dispensing of granules.

Further, the Bowen reference only provides a very slow moving mechanism that cannot be independently controlled. Rather, the Bowen reference relates to 40 year old technology where the line speed is from about 200 to about 800 factory squares per hour can be made. By referring to the statement in Bowen, at column 1, lines 40 – 45, it can be readily seen that 500 squares per hour provides about 36 linear feet of material per hour, or about 0.6 ft/min. Thus, the slow speed of Bowen is about 0.24 ft/min (200 factory squares per hour) and the high speed of Bowen is about 0.96 ft/min (800 factory squares per hour).

In contrast, the method of the present invention has a very fast mode of operation, as can be seen by the parameters set forth in claim 35 where the line speed operates between about 200 ft/min to about 1,000 ft/min. One advantage of the independent control of the speed of the gate and the extent of opening of such gate is the ability to achieve both highly accurate drop placement and high operating line speeds.

The White et al. reference, owned by the same assignee as herein, has a slide gate that operates as a discharge slot which is opened to a "full open" condition every time there is a blend drop. Thus, according to the White et al. reference, there is no mechanism to vary the flow to accommodate changes in the line speed of the moving sheet.

Also, the White et al. reference fails to teach or suggest the independent control of both the speed of the movement of the gate and independent control of the extent of opening of the slot by the gate to meter the granules falling from the hopper.

Therefore, the Bowen and White et al. references fail to teach or suggest the present invention.

In view of the above amendments and remarks, the Applicant has shown that the specification is in proper form, the claims are in proper form for allowance, and the invention, as defined in claims 1, 3-9, 11-18, 20 and 22 - 40, is patentably distinct. Accordingly, the Applicant respectfully requests allowance of all claims.

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